

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Previously Presented) A composition comprising an isolated protein with catalytic activity of an exoglucanase, said protein comprising a glycoside hydrolase 48 (GH48) catalytic domain having at least about 95% sequence identity with SEQ ID NO. 5, a carbohydrate binding domain (CBD) type III having at least about 95% sequence identity with SEQ ID NO. 4 and possessing carbohydrate binding activity, and a carbohydrate binding domain (CBD) type II having at least about 95% sequence identity to SEQ ID NO. 7 and possessing carbohydrate binding activity.
2. (Previously Presented) The composition of claim 1 wherein the protein is further defined as comprising a linker and a signal peptide.
3. (Previously Presented) The composition of claim 1 wherein the GH48 catalytic domain is further defined as having a length of about 637 to about 643 amino acids.
4. (Previously Presented) The composition of claim 1 wherein the carbohydrate binding domain (CBD) type III is further defined as having a length of about 150 to about 156 amino acids.
5. (Previously Presented) The composition of claim 1 wherein the carbohydrate binding domain (CBD) type II is further defined as having a length of about 95 amino acids to about 105 amino acids in length.
6. (Previously Presented) A composition comprising an isolated protein with catalytic activity of an exoglucanase, said protein comprising a glycoside hydrolase 48 (GH48)-catalytic domain having the sequence of SEQ ID NO: 5, a carbohydrate binding domain (CBD) type III having at least about 95% sequence identity with SEQ ID NO. 4 and possessing carbohydrate binding activity, and a carbohydrate binding domain (CBD) type II having at least about 95% sequence identity to SEQ ID NO. 7 and possessing carbohydrate binding activity.
7. (Previously Presented) The composition of claim 6 wherein the carbohydrate binding domain

(CBD) type III is further defined as having the sequence of SEQ ID NO: 4.

8. (Previously Presented) The composition of claim 6 wherein the carbohydrate binding domain (CBD) type II is further defined as having the sequence of SEQ ID NO: 7.

9. (Previously Presented) The composition of claim 1 further defined as comprising, in combination, the sequence of SEQ ID NO: 4, SEQ ID NO: 5, and SEQ ID NO: 7.

10. (Previously Presented) An isolated protein with catalytic activity of an exoglucanase having the sequence of SEQ ID NO: 1.

11. (Previously Presented) The protein of claim 10 further defined as being encoded by a polynucleotide having the sequence of SEQ ID NO: 2.

12 - 18. (Cancelled)

19. (Previously Presented) The composition of claim 6 wherein the protein further comprises a linker domain having an amino acid sequence with at least about 95% sequence identity to SEQ ID NO: 6.

20. (Previously Presented) The composition of claim 6 wherein the protein is further defined as comprising an amino acid sequence having at least about 95% sequence identity to SEQ ID NO: 1.

21. (Previously Presented) The composition of claim 6 wherein the protein is further defined as comprising an amino acid sequence encoded by a nucleic acid sequence that has at least about 95% identity to the nucleic acid sequence of SEQ ID NO: 2.

22. (Cancelled)

23. (Previously Presented) The composition of claim 6, wherein the protein further comprises a

peptide tag.

24. (Previously Presented) The composition of claim 23 wherein the peptide tag is 6-His (SEQ ID NO: 8), thioredoxin, hemagglutinin, GST, or OmpA signal sequence tag.

25. (Previously Presented) The composition of claim 6 wherein the protein further comprises a substrate targeting moiety.

26 - 30. (Cancelled)

31. (Previously Presented) The composition of claim 74, wherein the heterologous peptide is a substrate targeting moiety.

32. (Previously Presented) The composition of claim 74, wherein the heterologous peptide is a peptide tag.

33. (Previously Presented) The composition of claim 32, wherein the peptide tag is 6-His (SEQ ID NO:8), thioredoxin, hemagglutinin, GST, or OmpA signal sequence tag.

34. (Previously Presented) The composition of claim 74, wherein the heterologous peptide is an agent that promotes polypeptide oligomerization.

35 - 68. (Cancelled)

69. (Previously Presented) The composition of claim 6 further comprising a carrier.

70. (Previously Presented) The composition of claim 6 wherein the protein is further defined as comprising a heterologous peptide or protein.

71. (Previously Presented) The composition of claim 70 wherein the heterologous peptide or protein comprises an immunoglobulin.

72. (Previously Presented) The composition of claim 70 wherein the heterologous peptide comprises a histidine tag.

73. (Previously Presented) The composition of claim 70 wherein the heterologous peptide comprises a leucine zipper.

74. (Previously Presented) The composition of claim 70 wherein the heterologous peptide comprises a fusion protein.

75 - 77. (Cancelled)

78. (Previously Presented) The composition of claim 6 further defined as comprising, in combination, the sequence of SEQ ID NO: 4, SEQ ID NO: 5, and SEQ ID NO: 7 in that particular order.

79. (Previously Presented) A purified polypeptide with catalytic activity of an exoglucanase having a sequence with at least about 95% identity to SEQ ID NO: 1.

80. (Previously Presented) A purified polypeptide with catalytic activity of an exoglucanase having a sequence with at least about 98% identity to SEQ ID NO: 1.

81- 84. (Cancelled)

85. (New) An isolated polynucleotide characterized by an ability to hybridize specifically with the polynucleotide represented by SEQ ID NO: 2 in a high stringency hybridization reaction at 42°C for about 2.5 hours in 6 x SSC/0.1% SDS.

86. (New) An isolated polynucleotide having about 95% sequence identity to the polynucleotide of claim 85.

87. (New) An isolated polynucleotide encoding a protein with catalytic activity of an exoglucanase, wherein the polynucleotide is characterized by an ability to hybridize specifically with the complement of the polynucleotide represented by SEQ ID NO: 2 in a high stringency hybridization reaction at 42°C for about 2.5 hours in 6 x SSC/0.1% SDS.

88. (New) The isolated polynucleotide of claim 87 having at least about 95% sequence identity to SEQ ID NO: 2.

89. (New) A composition comprising an isolated protein with catalytic activity of an exoglucanase, wherein the protein is encoded by a first polynucleotide which hybridizes with a complement of a second polynucleotide represented by SEQ ID NO: 2 in a high stringency hybridization reaction at 42°C for about 2.5 hours in 6 x SSC/0.1% SDS.

90. (New) The first polynucleotide of claim 89 having at least about 95% sequence identity to SEQ ID NO: 2.